

Grade Level Texas Essential Knowledge and Skills (TEKS) by Content Area:

Mathematics

Grade 4: 4.13A; B; 4.14A; B; C; D;
4.15A; 4.16A; B

Grade 5: 5.5A; 5.12A; B; C; 5.13A; B; C;
5.14A; B; C; 5.15A; 5.16A; B

Grade 6: 6.1 C; 6.8A; B; 6.9B; 6.10A; B;
C; D; 6.11A; B; C; D; 6.12A; B; 13A; B

Grade 7: 7.2; G; 7.5A; B; 7.8A; B; 7.10A;
B; 7.15A; B; C; D; 7.14A; B; 7.15A; B

Grade 8: 8.4; 8.5A; 8.11A; B; C; 8.12B;
C; 8.13A; B; 8.14A; B; C; D; 8.15A; B;
8.16A; B

Science (Environmental, Ecology) {2009}

Grade 4: 1A; B; 2A; B; C; D; E; F; 3A; D;
4A; B; 7C

Grade 5: 1A; B; 2A; B; C; D; E; F; G; 3A;
4A; B; 9A; C

Grade 6: 1A; B; 2A; B; C; D; E; 3A; 4A; B

Grade 7: 1A; B; 2A; B; C; D; E; 3A; 4A;
B; 8C; 10B

Grade 8: 1A; B; 2A; B; C; D; E; 3A; 4A;
B; 11C; D

Social Studies {2010}

Grade 4: 9A; B; C; 22A; B; C; D; E; 23A; B

Grade 5: 9A; B; 24B; C; D; 25A; B; C; D;
E; 26A; B

Grade 6: 6A; B; C; 7B; 21A; B; C; D; E;
F; 22A; B; C; D; E; F; 23A; B

Grade 7: 10A; 21A; B; C; D; E; F; G; H;
22A; B; C; D; 23A; B

Grade 8: 11B; 29B; C; 30A; B; C; D;
31A; B



Adopt-A-Beach

Overview

Through the Beach Guardian program, students adopt a beach along the Texas shoreline and visit at least once a year (more often if possible) to collect litter and record data into a spreadsheet. Students then complete a project to further improve their chosen beach.

Please visit texasadoptabeach.org to submit an online application to officially adopt a stretch of beach or mail printed forms to: **Texas General Land Office Adopt-A-Beach Program, P.O. Box 12873, Austin, Texas 78711-2873.**

Objectives

- ✱ Discuss how people can help their community.
- ✱ Reflect on why beaches (or similar grounds) are a special amenity.
- ✱ Collect data on litter, water quality and physical characteristics at a beach.
- ✱ Analyze data for trends and patterns.
- ✱ Create solutions based on identifiable concerns.

Prerequisites

Units 3 and 4

Setting

Indoors/Outdoors

Materials

Cleanup materials are available from the Texas General Land Office Adopt-A-Beach Program. Email beach@glo.texas.gov or call toll free in Texas at **1.877.TXCOAST**. Contact your local municipality for water quality testing kits.

- ⇒ trash bags
- ⇒ gloves
- ⇒ **Ocean Conservancy Ocean Trash Data Form** (located at the end of this lesson)
- ⇒ pencils
- ⇒ **water quality testing kits** (optional)

Developmental Modifications

This activity can be modified to be done on school grounds or areas within your community that need special attention (CAUTION! Young children will need close supervision and should exercise extreme caution with sharp objects. When picking up garbage, always wear gloves).

Background

The Texas General Land Office Adopt-A-Beach Program is a service learning and citizen science program. Groups will collect litter data during a series of three visits and will use this information to create positive changes at the beach. Service learning integrates community service into curriculum, and connects schools with agencies and neighborhoods. These experiences build an understanding of a community, enrich learning and help youth develop personally, socially and academically. Service learning incorporates such steps as: research, investigation, analysis, action, reflection, and celebration. The Adopt-A-Beach Program is an easy and fun way for groups to connect with part of the Texas shoreline by cleaning their favorite beach. Adopters generally commit to three visits per year. During the visits, adopters use special forms to collect data on three different aspects of their beach.



Activities

Collecting and Analyzing Data

1. Gather information on the Adopt-A-Beach Program through texasadoptabeach.org and email questions to beach@glo.texas.gov.
2. Select a beach to adopt and send your visitation schedule to the Texas General Land Office Adopt-A-Beach Program. You will receive a participation form to fill out. If your group cannot commit to all three visits, consider partnering with another group to share the beach visits and data collection.
3. Order or gather the necessary materials and supplies.
4. Pre-visit Reflection: Have the students answer the first set of journal questions.
5. Visit your adopted beach and enter data onto the Ocean Trash Data Form.
6. Litter monitor: At each visit, litter is collected, recorded, and recycled or disposed of properly.
7. Upon returning from each visit, students will answer the second set of journal questions. Provide one copy of this page for each visit. Discuss as a class.
8. Tally all data.

9. Review and analyze the data from your visits, looking for trends and potential issues on your beach. Graph the data to better understand beach garbage issues. Find creative ways to display your data through graphs, posters and presentations. Ideas for helping the beach will become apparent as students analyze their data.

Taking Action

1. Use the information gathered to help create positive change at the beach by asking:
 - ❁ What are some of the problems this beach has?
 - ❁ How could we help solve beach problems?
 - ❁ How do students solve the problems they encounter? Solutions might include educating others about keeping beaches healthy, procuring additional garbage cans or educational signage for the beach, writing letters with suggested improvements to your municipality or a community leader, or other positive actions.
2. After two visits, students will complete and share the third journal page. Use this opportunity to teach students to select projects that are manageable and can be completed successfully. Many projects are bigger than groups realize, and fail because of it.

The Texas General Land Office values your thoughts and feedback. Please provide information about any oversights, errors or omissions, as well as particular activities that students find interesting. Send comments to the Texas General Land Office Adopt-A-Beach Program at beach@glo.texas.gov.

*Adapted with permission from **Great Lakes in My World**, a lesson plan created by the Alliance for the Great Lakes.*

VOLUNTEER TRASH DATA FORM

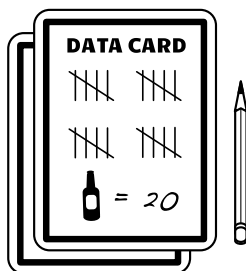


Ocean and waterway trash ranks as one of the most serious pollution problems choking our planet. Far more than an eyesore, a rising tide of marine debris threatens human health, wildlife, communities and economies. Ocean trash is entirely preventable, and the data you collect today is invaluable for helping us educate the public, businesses and government officials about the scale and consequences of our marine debris problem. **Thank you for participating in one of our beach cleanups!** Your commitment is the first step toward ensuring a cleaner Texas coast year-round.

HERE IS HOW IT WORKS:



Pick up the trash



Record the data



Dispose of trash properly

CLEANUP SITE INFORMATION:

Cleanup Site Name

County Nearest Crossroad

CATEGORY OF CLEANUP:

Coastal ☐ Inland Waterway ☐

TYPE OF CLEANUP:

Land ☐ Underwater ☐ Watercraft ☐

NUMBER OF VOLUNTEERS WORKING ON THIS CARD:

Adults ☐ Children ☐

MOST UNUSUAL ITEM COLLECTED:

PLEASE RETURN THIS CARD TO YOUR AREA COORDINATOR OR MAIL OR EMAIL IT TO:



Texas General Land Office Adopt-A-Beach Program
P.O. Box 12873
Austin, Texas 78711-2873
beach@glo.texas.gov
texasadoptabeach.org

Trash Collected

Citizen scientist: Pick up all trash and record all items you find below. No matter how small the items, the data you collect is important.

Example:

Plastic Bags:

NI III

=

8

Total #



Most Likely to Find Items:



Total #



Cigarette Butts:	=
Food Wrappers (candy, chips, etc.):	=
Take Out/Away Containers (plastic):	=
Take Out/Away Containers (foam):	=
Bottle Caps (plastic):	=
Bottle Caps (metal):	=
Lids (plastic):	=
Straws/Stirrers:	=
Forks, Knives and Spoons:	=

Beverage Bottles (plastic):	=
Beverage Bottles (glass):	=
Beverage Cans:	=
Grocery Bags (plastic):	=
Other Plastic Bags:	=
Paper Bags:	=
Cups and Plates (paper):	=
Cups and Plates (plastic):	=
Cups and Plates (foam):	=

Fishing Gear:

Total #



Fishing Buoys, Pots and Traps:	=
Fishing Net and Pieces:	=
Rope (1 yard = 1 piece):	=
Fishing Line (1 yard = 1 piece):	=

Packaging Materials:

Total #



6-Pack Holders:	=
Other Plastic/Foam Packaging:	=
Other Plastic Bottles (oil, bleach, etc.):	=
Strapping Bands:	=
Tobacco Packaging/Wrap:	=

Other Trash:

Total #



Appliances (refrigerators, washers, etc.):	=
Balloons:	=
Cigar Tips:	=
Cigarette Lighters:	=
Construction Materials:	=
Fireworks:	=
Tires:	=

Personal Hygiene:

Total #



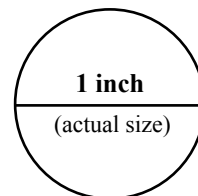
Condoms:	=
Diapers:	=
Syringes:	=
Tampons/Tampon Applicators:	=
Clothing/Shoes:	=

Tiny Trash Less Than 1 Inch:

Total #



Foam Pieces:	=
Glass Pieces:	=
Plastic Pieces:	=



Dead/Injured Animal

Status

Entangled

Type of Entanglement Item

Dead or Injured

Yes or No

Items of Local Concern:

1. 2. 3.

Cleanup Summary:

No. of Trash Bags Filled

Weight of Trash Collected

 lbs.

Distance Cleaned

 miles

Unit 5 | “Adopt-A-Beach” Journal Pages

PART ONE: PRE-VISIT REFLECTION

Answer the following questions BEFORE your first beach visit.

1. How often do you visit the beach?

2. When you visit the beach, what do you do there?

3. What do you like best about the beach?

4. What factors determine beach conditions?

5. When was the last precipitation (rain, snow, hail) and how might this impact the beach?

6. What ideas do you have for creating positive change at the beach?

7. What are you looking forward to as part of your Adopt-A-Beach cleanup?

Unit 5 | “Adopt-A-Beach” Journal Pages

PART TWO: POST-VISIT REFLECTION

Answer the following questions AFTER your first beach visit.

1. Describe how the beach looked when you arrived.

2. What did you like best about your beach visit?

3. What surprised you about your visit to the beach?

4. What did you learn from the data you collected?

5. What was the most frequently found trash item?

6. How does your data compare to past visits you have made, or to data other groups around the coast have collected?

7. Based on your data, what ideas do you have for creating positive changes at the beach?

Unit 5 | “Adopt-A-Beach” Journal Pages

PART THREE: PROJECT PLANNING

Answer the following questions AFTER AT LEAST TWO visits to the beach. Be prepared to share your answers with the class.

1. What are your favorite ideas to create positive change at the beach?

2. Which one of these ideas would you like to carry out?

3. What resources (time, money, etc.) would be needed to carry out this project?

4. What challenges might you face while working on this project?

5. How will you overcome these challenges?

6. List the first steps you think the class should take to carry out the project.
